



CERTIFICATE OF TRANSLATION

I, Roger P. Lewis, whose address is 42 Bird Street North, Martinsburg WV 25401, declare and state the following:

I am well acquainted with the English and Japanese languages and have in the past translated numerous English/Japanese documents of legal and/or technical content.

I hereby certify that the Japanese translation of the attached translation of documents identified as

Sections [0243] to [0253] of Japanese Patent 2000-299238

is to the best of my knowledge and ability true and accurate.

I further declare that all statements contained herein of our own knowledge, are true, that all statements of information and belief are believed to be true.

A handwritten signature in cursive script, appearing to read "Roger P. Lewis".

ROGER P. LEWIS

February 23, 2006



00-299238

Japanese Patent Application

2000-299238

(Abridged)

[0243]

In the product disassembly line, after the cosmetic label 13 is peeled off, first, the charge operating member 19 and the winding knob 23, etc. except the front cover 29 were removed and the parts delivered to the plastic part regeneration line. The exposure unit 28, the power-supply battery 37 and the stroboscopic unit 27 were removed after the removal of the front cover 29, and the exposure unit 28 and the stroboscopic unit 27 were inspected, cleaned and reused. The power-supply battery 37 was recovered by battery recovery professionals. Finally, the remaining body base 26 and the rear cover 31 were separated and delivered to the plastic parts regeneration line, where carbon black and an antioxidant were added and the plastic parts recycled.

[0244]

Next, the results of photographic tests 1, 2 for comparing the novel resin and the regeneration resin are described, beginning with the photographic test 1. In the method of the first photographic test, a sample resin pellet comprising a testing object and a photographic film were put into a single container, where it remained for one week. Subsequently the photographic film was withdrawn from the container, developed and processed, and the fog and sensitivity changes were determined. The inside of container was maintained at a temperature of 50°C and a humidity of 60%. The weight of the sample resin pellet placed in the container was 500 g, and a 135

mm type 36 exp. negative film of ISO sensitivity 800 was used as the photographic film.

[0245]

An extruder used in producing the sample resin pellet was a well-known vent-type single-shaft extruder, and an extruder of 100 mm in screw diameter D and 28 in the ratio L/D of the diameter D to the effective length of screw was used, with the extrusion temperature being 230°C . The sample resin pellet was formed in the shape of a pellet by the extruder.

[0246]

Five sample resin pellets used in the photographic test 1 are described next. The sample resin pellet 1 was used as a novel resin model and provided by mixing carbon black and a novel resin, obtained by mixing butadiene rubber with polystyrene resin, and the mixture was placed in an extruder once to make it into a resin pellet. In a method of mixing carbon black, a carbon master batch resin containing carbon black in a thermoplastic resin in a ratio of 24.5 wt% was formed, the carbon master batch resin and novel resin then being mixed in a weight ratio of 1 : 35. The carbon black used here has a mean particle diameter of 24 nm, pH (hydrogen ion exponent) of 8.0 and a nitrogen adsorption specific surface area of $110 \text{ m}^2/\text{g}$. The carbon black is called C1, the carbon master batch resin containing the carbon black C1 then being known as CM.

[0247]

The carbon master batch resin CM1 was formed by the well-known method referred to below. Namely, first, 49 wt% of carbon black C1, 1 wt% of zinc stearate and 50 wt%

of polystyrene resin were mixed and then blended by a Banbury mixer to form an angular high-concentration carbon-containing resin through mixing rolls. Next, the high-concentration carbon-containing resin and the novel resin were mixed in a weight ratio of 1 : 1, melted and blended by a vent-type extruder to obtain the cylindrical carbon master batch resin CM1.

[0248]

The sample resin pellet 2 ~ sample resin pellet 5 are regenerated resin models imitating regenerated resins and are compared with the sample resin pellet 1 comprising a novel resin model. Sample resin pellet 2 is the same mixture as the sample resin pellet 1 and formed in the same mixing ratio but is different from the sample resin pellet 1 in the number of times it was placed on an extruder. Sample resin pellet 2 was provided by placing it on an extruder 5 times with repeated hot melting. A regenerated resin was formed once, and the used resin parts are re-melted again and returned to the raw material state. To imitate the regenerated resin, hot melting was repeated for the sample resin pellet 1, and used as sample resin pellet 2.

[0249]

The sample resin pellet 3 was formed by placing a mixture the same as the sample resin pellet 1 in the same mixing ratio on an extruder four times, supplementing the carbon master batch resin CM1 to the formed resin in an amount as much as 1/30th of the amount mixed at the beginning (the amount mixed with sample resin pellet 1) and further placing them on the extruder once. The number of times of placing them on the extruder was 5 times (4 times + 1 time), and the number of repeated hot melting was same as the sample resin pellet 2.

[0250]

The sample resin pellet 4 was formed by placing the same mixture as the sample resin pellet 1 in the same mixing ratio on an extruder four times, adding a carbon master batch resin CM2 containing a carbon black C2 different from the carbon black C1 and further placing them on the extruder once. This carbon black had a mean particle diameter of 16 nm, pH of 7.5 and a nitrogen adsorption specific surface area of 260 m²/g. The carbon master batch resin CM2 was mixed with 24.5 wt% of carbon black C2. As with the sample resin pellet 3, the amount of mixing of the carbon master batch resin CM2 was 1/30th the amount mixed with the sample resin pellet 1.

The method for preparing the carbon master batch resin CM2 was same as the method for the carbon master batch resin CM1.

[0251]

The sample resin pellet 5 was formed by placing the same mixture as the sample resin pellet 1 in the same mixing ratio on an extruder four times, adding the carbon master batch resin CM2 and an antioxidant to the formed resin and further mixing and placing them on the extruder once. The mixing ratio of carbon master batch resin CM2 was the same as the sample resin pellet 4, and the mixing ratio of the antioxidant was 0.05%. IRAGANOX 1076 (trade-name, made by Ciba-Geigy Co.) comprising a phenolic antioxidant was used as the antioxidant.

[0252]

The test results of the first photographic test is shown in Table 1 of Fig. 6. The

evaluation shows the extent of the properties of sample resin pellets 2 ~ 5 comprising the regenerated resin models based on the sample resin pellet 1 comprising a novel resin model.

[0253]

The following is known from Table 1. From the evaluation of sample resin pellet 2, it is known that the photographic properties deteriorate if hot melting of the resin is repeated. From the evaluation of sample resin pellets 3 and 4, it is known that by supplementing carbon black during hot melting, ... (text ends in mid-sentence).